

CLAIMS

We claim:

1. A space-occupying device comprising:

a space-occupying element comprising a device volume, and wherein the device volume is maintained in a substantially cylindrical configuration by a binding agent, and wherein the flexibility of the device volume is increased when the binding agent is exposed to a softening agent.

2. The device of Claim 1, wherein the device volume comprises a flexible segment.

3. The device of Claim 1, wherein the device volume comprises a helical segment.

4. The device of Claim 1, wherein the device volume comprises a woven segment.

5. The device of Claim 1, wherein the binding agent comprises a gel.

6. The device of Claim 5, wherein the gel comprises a hydrogel.

7. The device of Claim 5, wherein the gel comprises a gelatin.

- 1 8. The device of Claim 1, wherein the binding agent comprises agar.
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- 3 9. The device of Claim 1, wherein the binding agent comprises a sugar.
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- 5 10. The device of Claim 1, wherein the binding agent comprises collagen.
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- 7 11. The device of Claim 10, wherein the binding agent comprises a collagen matrix
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- 9 12. The device of Claim 1, wherein the binding agent comprises a radial constraining
- 10 device.
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- 12 13. The device of Claim 1, wherein the binding agent comprises a net.
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- 14 14. A device for filling an abnormal void within the body comprising:
- 15 a first space-occupying piece;
- 16 a second space-occupying piece, wherein the first space-occupying piece is
- 17 flexibly attached to the second space-occupying piece; and
- 18 a binding agent attached to the first space-occupying piece and the second space-
- 19 occupying piece, wherein the binding agent increases the column strength of the
- 20 attachment of the first space-occupying piece and the second space-occupying piece, and

1 wherein the flexibility of the attachment of the first space-occupying piece and the
2 second space-occupying piece is increased when the binding agent is exposed to a
3 softening agent.

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5 15. The device of Claim 14, wherein the first space-occupying piece comprises a first
6 segment of a flexible leader,

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8 16. The device of Claim 15, wherein the second space-occupying piece comprises a
9 second segment of the flexible leader.

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11 17. The device of Claim 14, further comprising a flexible leader, wherein the first space-
12 occupying piece is connected to the leader at a first length along the leader, and wherein
13 the second space-occupying piece is connected to the leader at a second length along the
14 leader.

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16 18. The device of Claim 17, wherein the leader comprises a first end integrated with the
17 first space-occupying piece.

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19 19. The device of Claim 18, wherein the leader comprises a second end integrated with
20 the second space-occupying piece.

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1 20. The device of Claim 17, wherein the leader comprises a first end attached to the first
2 space-occupying piece to impede removal of the first space-occupying piece from the
3 leader.

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5 21. The device of Claim 20, wherein the leader comprises a knot to impede removal of
6 the first space-occupying piece from the leader.

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8 22. The device of Claim 14, wherein the first space-occupying piece comprises a first
9 non-expandable space-occupying element

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11 23. The device of Claim 15, wherein the second space-occupying piece comprises a
12 second non-expandable space-occupying element.

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14 24. The device of Claim 14, wherein the first space-occupying piece comprises collagen.

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16 25. The device of Claim 24, wherein the second space-occupying piece comprises
17 collagen.

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19 26. The device of Claim 14, further comprising a coating on the device.

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1 27. The device of Claim 26, wherein the coating comprises a therapeutic agent and/or a
2 diagnostic agent.

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4 28. The device of Claim 26, wherein the coating comprises a thrombogenic material.

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6 29. The device of Claim 26, wherein the coating comprises a collagen matrix.

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8 30. The device of Claim 14, wherein the first space-occupying piece is woven with the
9 second space-occupying piece.

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11 31. The device of Claim 14, wherein the first space-occupying piece comprises a first
12 fiber.

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14 32. The device of Claim 31, wherein the second space-occupying piece comprises a
15 second fiber.

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17 33. The device of Claim 31, wherein the first fiber comprises polyester.

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19 34. The device of Claim 14, wherein the first space-occupying piece is discrete from the
20 second space-occupying piece.

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2 35. The device of Claim 14, wherein the first space-occupying piece is integrated with
3 the second space-occupying piece.

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5 36. The device of Claim 14, wherein the first space-occupying piece is helical.

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7 37. The device of Claim 14, wherein the binding agent comprises a gel.

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9 38. The device of Claim 37, wherein the gel comprises a hydrogel.

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11 39. A method for filling an abnormal void within the body, the method comprising:

12 placing in a void within the body a catheter having a distal exit, the distal exit
13 placed at a treatment site;

14 passing a space-occupying device through the catheter and distal exit, the space-
15 occupying device comprising a device volume and a binding agent, wherein the binding
16 agent reduces the flexibility of the space-occupying device; and

17 deploying the device into the treatment site.

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19 40. The method of Claim 39, wherein the flexibility of the space-occupying device
20 increases when the binding agent is exposed to a softening agent.

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2 41. The method of Claim 39, wherein deploying comprises exposing the device to a
3 softening agent.

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